

Date: Friday, 04/04/2008 9:46:52 AM
 User: Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : OUTER AFT SADDLE
 Job Number : 38367
 Estimate Number : 11080
 P.O. Number :
 This Issue : 04/04/2008 S.O. No. :
 Prsht Rev. : NC Part Number : D5955
 Drawing Number : D5955 REV B
 Project Number : N/A
 First Issue : 04/04/2008 Type : MACHINED PARTS Drawing Revision : B
 Material :
 Previous Run : 36461 Due Date : 23/04/2008 Qty: 16 Um: Each
 Written By :
 Checked & Approved By : JLD 08.04.4
 Comment : Est Rev:E Re-Format 05-11-29 JLM
 Est Rev:F ecn826 06.12.06 ec

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 D6101013 Saddle billet



Comment: Qty.: 1.0000 Each(s)/Unit Total : 16.0000 Each(s)

D6101-013 (7075-T7351)

Size 2.50" x 10.10" X 8.25" (Grain along 10.10")

Batch: B 31390 DIP 08/04/08

2.0 HAAS3 HAAS CNC VERTICAL MACHINING #3



P10 →

Comment: HAAS CNC VERTICAL MACHINING #3

1-Machine as per folio D5955, Ensure Batch Number is entered

2-Machine Keyway

3-Deburr & Tumble

DIP 08/04/08 / 2F 08/04/10

3.0 QC1 INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

DIP 2F 08/04/10

4.0 QC8 SECOND CHECK



Comment: SECOND CHECK

S 08/04/10 (15)

5.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



(15)

Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

BK 08-04-15

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | | |
| | | | | | | | | |

Part No: D5955 PAR #: 014 Fault Category: Prod / machine part NCR: Yes No DQA: D Date: 08/04/10
 QA: N/C Closed: D Date: 08/04/21

| NCR: <u>38468</u> | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|-------------------|----------|--|---|---------------------------------|------------------------|---------------------------|--|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| 08/04/14 | # 2.0 | During line inspection it was found that the hole size was 0.10" over the nominal. Also the hole pattern | <u>OP</u> 08/04/14 JR 08/04/14 | Scrap parts Ref DS Email. | <u>3.F</u> 08/04/15 | <u>C</u> 08/04/15 | <u>P</u> 08/04/14 08/04/15 08/04/14 | <u>C</u> 08/04/14 |
| | | for the skid tube is off by 0.050 0.050" in one direction R.C operator error. origin of on 4th axis was set wrong (+) | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:46:52 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: OUTER AFT SADDLE

Job Number: 38367

Part Number: D5955

Job Number:



Seq. #: Machine Or Operation: Description :

6.0 POWDER COATING POWDER COATING



M/08550



(15)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

FL 08/04/15

7.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



(15)

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FL 08-04-15

8.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 421

8/4/16

SLP

(15X)

9.0 QC21 FINAL INSPECTION/W/O RELEASE



08/04/17

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



CMF 08-04-16

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | | |
| | | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

| | | |
|--------------------------------------|---------------|---------------------------|
| DART AEROSPACE LTD | | Work Order: 38367 |
| Description: Outer Aft Saddle | | Part Number: D5955 |
| Inspection Dwg: D5955 | Rev: B | Page 1 of 1 |

Inspect dimensions highlighted on inspection sheet drawing and record below:

| | | | | Recorded Actual Dimensions | | | | | |
|---------------|------------------|------------------|----------------|----------------------------|-------|-------|-------|----|------|
| Dim | Min | Max | Go/No Go Gauge | 1 | 2 | 3 | 4 | By | Date |
| A | 0.438 | 0.443 | | .443 | .443 | .443 | .443 | | |
| B | 1.745 | 1.755 | | 1.750 | 1.748 | 1.748 | 1.748 | | |
| C | 5.245 | 5.255 | | 5.250 | 5.249 | 5.250 | 5.250 | | |
| D | 6.995 | 7.005 | | 6.995 | 6.999 | 6.999 | 6.999 | | |
| E | 5.745 | 5.755 | | 5.750 | 5.750 | 5.250 | 5.250 | | |
| F | 4.745 | 4.755 | | 4.750 | 4.750 | 4.750 | 4.750 | | |
| G | 0.315 | 0.322 | | .318 | .320 | .319 | .319 | | |
| H | 1.522 | 1.532 | | 1.529 | 1.529 | 1.529 | 1.526 | | |
| I | 3.048 | 3.058 | | 3.055 | 3.052 | 3.052 | 3.055 | | |
| J | 4.575 | 4.585 | | 4.580 | 4.580 | 4.580 | 4.580 | | |
| K | 0.313 | 0.318 | | .318 | .318 | .317 | .318 | | |
| L | 0.495 | 0.505 | | .500 | .501 | .501 | .501 | | |
| M | 0.490 | 0.510 | | .498 | .495 | .497 | .496 | | |
| N | 1.865 | 1.885 | | 1.870 | 1.877 | 1.877 | 1.877 | | |
| O | 7.990 | 8.010 | | 8.000 | 8.002 | 8.003 | 8.002 | | |
| P | 2.240 | 2.260 | | 2.251 | 2.250 | 2.250 | 2.250 | | |
| Q | 0.307 | 0.312 | | .311 | .311 | .311 | .311 | | |
| R | 0.760 | 0.765 | | .760 | .760 | .760 | .760 | | |
| S | 0.490 | 0.510 | | .500 | .501 | .503 | .500 | | |
| T | 1.625 | 1.645 | | 1.635 | 1.635 | 1.631 | 1.631 | | |
| U | 2.000 | 2.020 | | 2.002 | 2.002 | 2.002 | 2.000 | | |
| V | 0.023 | 0.043 | | .043 | .043 | .043 | .043 | | |
| W | | | | | | | | | |
| X | | | | | | | | | |
| Y | | | | | | | | | |
| Z | | | | | | | | | |
| AA | | | | | | | | | |
| AB | | | | | | | | | |
| AC | | | | | | | | | |
| AD | | | | | | | | | |
| AE | | | | | | | | | |
| AF | | | | | | | | | |
| AG | | | | | | | | | |
| AH | | | | | | | | | |
| Accept/Reject | | | | | | | | | |

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|-----------------|
| Measured by: RF |
| Date: 08/04/10 |

| |
|----------------|
| Audited by: |
| Date: 08/04/14 |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|---|------------|----------|
| A | 99.04.19 | New Issue | RF | |
| B | 02.12.13 | Reformat; Added Dim. T-U & DT8682, DT8686 | KJ/RF | |
| C | 06.11.20 | Added dimension V | KJ/JLM | |
| D | 06.12.06 | Dimensions L,N,P revised | KJ/EC | |
| E | 07.06.15 | Dimension G revised | KJ/JLM | |

| | | |
|--------------------------------------|---------------|---------------------------|
| DART AEROSPACE LTD | | Work Order: 38367 |
| Description: Outer Aft Saddle | | Part Number: D5955 |
| Inspection Dwg: D5955 | Rev: B | Page 1 of 1 |

Inspect dimensions highlighted on inspection sheet drawing and record below:

| Dim | Min | Max | Go/No Go Gauge | Recorded Actual Dimensions | | | | By | Date |
|---------------|-------|-------|----------------|----------------------------|-------|-------|-------|----|------|
| | | | | 5X | 6X | 7X | 8X | | |
| A | 0.438 | 0.443 | | .443 | .443 | .443 | .443 | | |
| B | 1.745 | 1.755 | | 1.750 | 1.750 | 1.750 | 1.750 | | |
| C | 5.245 | 5.255 | | 5.250 | 5.250 | 5.250 | 5.250 | | |
| D | 6.995 | 7.005 | | 7.000 | 7.000 | 7.000 | 7.000 | | |
| E | 5.745 | 5.755 | | 5.250 | 5.250 | 5.250 | 5.250 | | |
| F | 4.745 | 4.755 | | 4.750 | 4.750 | 4.750 | 4.750 | | |
| G | 0.315 | 0.322 | | .319 | .319 | .319 | .319 | | |
| H | 1.522 | 1.532 | | 1.529 | 1.530 | 1.530 | 1.526 | | |
| I | 3.048 | 3.058 | | 3.050 | 3.050 | 3.050 | 3.050 | | |
| J | 4.575 | 4.585 | | 4.580 | 4.580 | 4.580 | 4.580 | | |
| K | 0.313 | 0.318 | | .319 | .319 | .319 | .319 | | |
| L | 0.495 | 0.505 | | .497 | .501 | .501 | .501 | | |
| M | 0.490 | 0.510 | | .497 | .497 | .497 | .498 | | |
| N | 1.865 | 1.885 | | 1.885 | 1.885 | 1.885 | 1.885 | | |
| O | 7.990 | 8.010 | | 8.003 | 8.002 | 8.001 | 8.003 | | |
| P | 2.240 | 2.260 | | 2.250 | 2.250 | 2.250 | 2.250 | | |
| Q | 0.307 | 0.312 | | .311 | .311 | .311 | .311 | | |
| R | 0.760 | 0.765 | | .760 | .760 | .760 | .760 | | |
| S | 0.490 | 0.510 | | .492 | .492 | .495 | .490 | | |
| T | 1.625 | 1.645 | | 1.635 | 1.635 | 1.635 | 1.635 | | |
| U | 2.000 | 2.020 | | 2.002 | 2.002 | 2.002 | 2.001 | | |
| V | 0.023 | 0.043 | | .083 | .083 | .083 | .083 | | |
| W | | | | | | | | | |
| X | | | | | | | | | |
| Y | | | | | | | | | |
| Z | | | | | | | | | |
| AA | | | | | | | | | |
| AB | | | | | | | | | |
| AC | | | | | | | | | |
| AD | | | | | | | | | |
| AE | | | | | | | | | |
| AF | | | | | | | | | |
| AG | | | | | | | | | |
| AH | | | | | | | | | |
| Accept/Reject | | | | | | | | | |

| | |
|------------------------|--------------------------------|
| Measured by: <i>RF</i> | Audited by: <i>[Signature]</i> |
| Date: <i>06/04/10</i> | Date: <i>06/04/10</i> |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|---|------------|--------------------|
| A | 99.04.19 | New Issue | RF | |
| B | 02.12.13 | Reformat; Added Dim. T-U & DT8682, DT8686 | KJ/RF | |
| C | 06.11.20 | Added dimension V | KJ/JLM | |
| D | 06.12.06 | Dimensions L,N,P revised | KJ/EC | |
| E | 07.06.15 | Dimension G revised | KJ/JLM | <i>[Signature]</i> |

| | | |
|--------------------------------------|---------------|---------------------------|
| DART AEROSPACE LTD | | Work Order: 38367 |
| Description: Outer Aft Saddle | | Part Number: D5955 |
| Inspection Dwg: D5955 | Rev: B | Page 1 of 1 |

Inspect dimensions highlighted on inspection sheet drawing and record below:

| Dim | Min | Max | Go/No Go Gauge | Recorded Actual Dimensions | | | | By | Date |
|---------------|------------------|------------------|----------------|----------------------------|-------|-------|-------|----|------|
| | | | | 91 | 102 | 113 | 124 | | |
| A | 0.438 | 0.443 | | .443 | .443 | .443 | .443 | | |
| B | 1.745 | 1.755 | | 1.750 | 1.750 | 1.750 | 1.750 | | |
| C | 5.245 | 5.255 | | 5.250 | 5.250 | 5.250 | 5.250 | | |
| D | 6.995 | 7.005 | | 7.000 | 7.000 | 7.000 | 7.000 | | |
| E | 5.745 | 5.755 | | 5.250 | 5.250 | 5.250 | 5.250 | | |
| F | 4.745 | 4.755 | | 4.750 | 4.750 | 4.750 | 4.750 | | |
| G | 0.315 | 0.322 | | .319 | .319 | .319 | .319 | | |
| H | 1.522 | 1.532 | | 1.530 | 1.526 | 1.526 | 1.526 | | |
| I | 3.048 | 3.058 | | 3.050 | 3.054 | 3.054 | 3.054 | | |
| J | 4.575 | 4.585 | | 4.580 | 4.580 | 4.580 | 4.580 | | |
| K | 0.313 | 0.318 | | .319 | .319 | .319 | .319 | | |
| L | 0.495 | 0.505 | | .500 | .500 | .500 | .500 | | |
| M | 0.490 | 0.510 | | .497 | .497 | .496 | .497 | | |
| N | 1.865 | 1.885 | | 1.885 | 1.885 | 1.886 | 1.86 | | |
| O | 7.990 | 8.010 | | 8.001 | 8.001 | 8.000 | 8.000 | | |
| P | 2.240 | 2.260 | | 2.250 | 2.250 | 2.250 | 2.250 | | |
| Q | 0.307 | 0.312 | | .310 | .310 | .310 | .310 | | |
| R | 0.760 | 0.765 | | .762 | .762 | .762 | .762 | | |
| S | 0.490 | 0.510 | | .500 | .500 | .505 | .505 | | |
| T | 1.625 | 1.645 | | 1.635 | 1.635 | 1.635 | 1.635 | | |
| U | 2.000 | 2.020 | | 2.002 | 2.002 | 2.000 | 2.000 | | |
| V | 0.023 | 0.043 | | .033 | .033 | .033 | .033 | | |
| W | | | | | | | | | |
| X | | | | | | | | | |
| Y | | | | | | | | | |
| Z | | | | | | | | | |
| AA | | | | | | | | | |
| AB | | | | | | | | | |
| AC | | | | | | | | | |
| AD | | | | | | | | | |
| AE | | | | | | | | | |
| AF | | | | | | | | | |
| AG | | | | | | | | | |
| AH | | | | | | | | | |
| Accept/Reject | | | | | | | | | |

| | |
|------------------------|--------------------------------|
| Measured by: <i>SE</i> | Audited by: <i>S. S. S. S.</i> |
| Date: 08/04/11 | Date: 08/04/11 |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|---|------------|----------|
| A | 99.04.19 | New Issue | RF | |
| B | 02.12.13 | Reformat; Added Dim. T-U & DT8682, DT8686 | KJ/RF | |
| C | 06.11.20 | Added dimension V | KJ/JLM | |
| D | 06.12.06 | Dimensions L,N,P revised | KJ/EC | |
| E | 07.06.15 | Dimension G revised | KJ/JLM | |

| | | |
|--------------------------------------|---------------|---------------------------|
| DART AEROSPACE LTD | | Work Order: 38361 |
| Description: Outer Aft Saddle | | Part Number: D5955 |
| Inspection Dwg: D5955 | Rev: B | Page 1 of 1 |

Inspect dimensions highlighted on inspection sheet drawing and record below:

| Dim | Min | Max | Go/No Go Gauge | Recorded Actual Dimensions | | | | By | Date |
|-----|-------|-------|----------------|----------------------------|-------|--------|--------|----|------|
| | | | | 13 | 14 | 15 | 16 | | |
| A | 0.438 | 0.443 | | .443 | 0.443 | 0.443 | 0.443 | | |
| B | 1.745 | 1.755 | | 1.750 | 1.747 | 1.750 | 1.749 | | |
| C | 5.245 | 5.255 | | 5.250 | 5.250 | 5.250 | 5.248 | | |
| D | 6.995 | 7.005 | | 7.000 | 7.000 | 7.000 | 7.001 | | |
| E | 5.745 | 5.755 | | 5.250 | 5.250 | 5.250 | 5.250 | | |
| F | 4.745 | 4.755 | | 4.750 | 4.750 | 4.750 | 4.750 | | |
| G | 0.315 | 0.322 | | .319 | .319 | .319 | 0.322 | | |
| H | 1.522 | 1.532 | | 1.530 | 1.526 | 1.526 | 1.526 | | |
| I | 3.048 | 3.058 | | 3.050 | 3.050 | 3.050 | 3.052 | | |
| J | 4.575 | 4.585 | | 4.580 | 4.580 | 4.580 | 4.579 | | |
| K | 0.313 | 0.318 | | .319 | .319 | .319 | .319 | | |
| L | 0.495 | 0.505 | | .501 | .501 | .501 | 0.500 | | |
| M | 0.490 | 0.510 | | .497 | .496 | .497 | 0.496 | | |
| N | 1.865 | 1.885 | | 1.880 | 1.880 | 1.885 | 1.885 | | |
| O | 7.990 | 8.010 | | 8.000 | 8.001 | 8.001 | 8.001 | | |
| P | 2.240 | 2.260 | | 2.250 | 2.250 | 2.250 | 2.250 | | |
| Q | 0.307 | 0.312 | | .310 | .310 | .310 | .312 | | |
| R | 0.760 | 0.765 | | 0.762 | .762 | .762 | .762 | | |
| S | 0.490 | 0.510 | | 0.492 | .495 | 0.494 | 0.495 | | |
| T | 1.625 | 1.645 | | 1.635 | 1.635 | 1.642 | 1.642 | | |
| U | 2.000 | 2.020 | | 2.002 | 2.002 | 2.0075 | 2.0075 | | |
| V | 0.023 | 0.043 | | .033 | .033 | .033 | 0.033 | | |
| W | | | | | | | | | |
| X | | | | | | | | | |
| Y | | | | | | | | | |
| Z | | | | | | | | | |
| AA | | | | | | | | | |
| AB | | | | | | | | | |
| AC | | | | | | | | | |
| AD | | | | | | | | | |
| AE | | | | | | | | | |
| AF | | | | | | | | | |
| AG | | | | | | | | | |
| AH | | | | | | | | | |

Accept/Reject

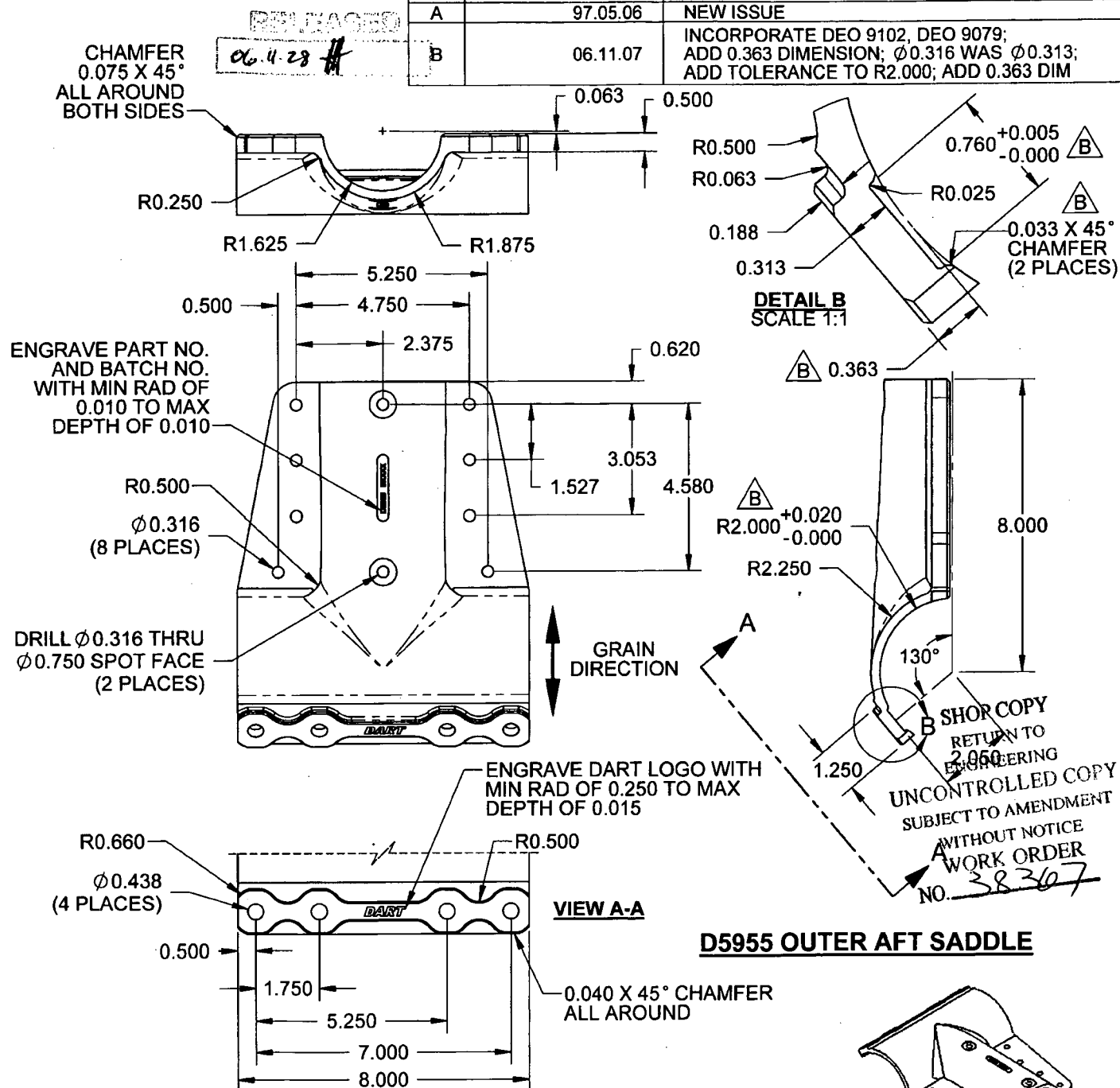
| |
|------------------------|
| Measured by: <i>SP</i> |
| Date: <i>06/04/11</i> |

| |
|------------------------------|
| Audited by: <i>009/01/14</i> |
| Date: <i>009/01/14</i> |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|---|------------|----------|
| A | 99.04.19 | New Issue | RF | |
| B | 02.12.13 | Reformat; Added Dim. T-U & DT8682, DT8686 | KJ/RF | |
| C | 06.11.20 | Added dimension V | KJ/JLM | |
| D | 06.12.06 | Dimensions L,N,P revised | KJ/EC | |
| E | 07.06.15 | Dimension G revised | KJ/JLM | |

DART

| | | | |
|-------------------------|----------------------------------|--|------------------------|
| DESIGN BW | DRAWN BY CB | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED LE | APPROVED H | DRAWING NO. D5955 | REV. B SHEET 1 OF 1 |
| DATE 06.11.07 | TITLE OUTER AFT SADDLE | | SCALE 1:4 |
| REV A | DATE 97.05.06 | DESCRIPTION NEW ISSUE | |
| B | 06.11.07 | INCORPORATE DEO 9102, DEO 9079; ADD 0.363 DIMENSION; Ø0.316 WAS Ø0.313; ADD TOLERANCE TO R2.000; ADD 0.363 DIM | |

**NOTES:**

- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12
(MAKE FROM D6101-013 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.010 TO 0.020

ISOMETRIC VIEW
SCALE 1:8

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Chris Provencal

From: David Shepherd [dshepherd@dartaero.com]
Sent: April 14, 2008 11:22 AM
To: 'Chris Provencal'
Cc: 'Mike Petsche'
Subject: RE: NCR D5955

I agree ... I think we should scrap it.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Monday, April 14, 2008 9:08 AM
To: dshepherd@dartaero.com
Cc: mpetcher@dartaero.com
Subject: NCR D5955

David,

Qty(1) D5955 Saddle (hi-hi), the saddle-to-skidtube holes are all +0.012" over nominal (nominal=0.438). They are also shifted to one side by 0.025". I'm thinking it should be scrapped, the location is fairly critical and the oversized holes would place more load on the flange.

-Chris

No virus found in this incoming message.
Checked by AVG.
Version: 7.5.519 / Virus Database: 269.22.13/1376 - Release Date: 4/13/2008 1:45 PM

No virus found in this outgoing message.
Checked by AVG.
Version: 7.5.519 / Virus Database: 269.22.13/1376 - Release Date: 4/13/2008 1:45 PM